

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number
WO 2004/057122 A1

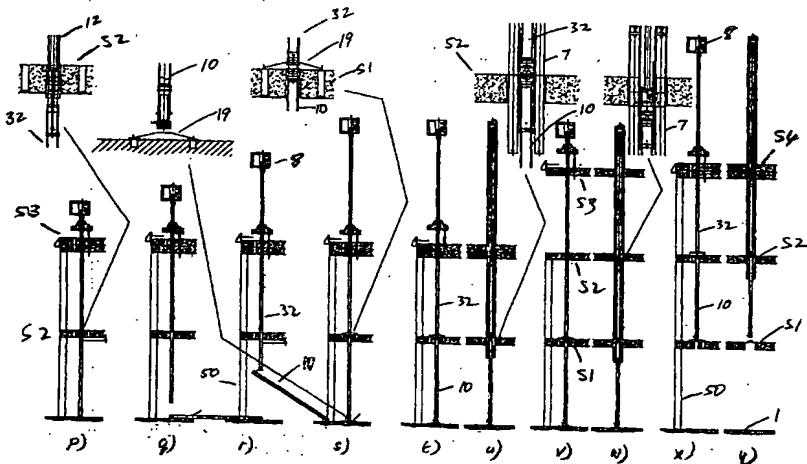
- (51) International Patent Classification⁷: **E04B 1/35**, B66F 3/08
- (21) International Application Number: PCT/NZ2003/000281
- (22) International Filing Date: 19 December 2003 (19.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
- | | | |
|--------|-------------------------------|----|
| 523360 | 23 December 2002 (23.12.2002) | NZ |
| 523361 | 23 December 2002 (23.12.2002) | NZ |
- (71) Applicant (for all designated States except US): JACKING SYSTEMS LIMITED [NZ/NZ]; 18A Springfield Road, Western Springs, 1002 Auckland (NZ).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): NEIGHBOURS, Gregory, John [NZ/NZ]; 18A Springfield Road, Western Springs, 1002 Auckland (NZ).
- (74) Agents: BODY, Evelyn et al.; 5A Pacific Rise, Sylvia Park, PO Box 5298, Takapuna, 1006 Auckland (NZ).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,

[Continued on next page]

(54) Title: CONCRETE SLAB LIFTING SYSTEM



(57) Abstract: The invention provides a system and method of lifting and conveying a concrete slab and/or associated works. The slab has an area includes a plurality of apertures therethrough. A jack at least comprising a shaft having a portion passes through the aperture and contacts a lower support means. The system includes a means for connecting the slab to the shaft. The connection means incorporates at least one supporting member connecting the slab to the shaft. Each supporting member passes through another said aperture and engages the slab. Also included is a means for effecting longitudinal travel of said supporting means along said shaft, resulting in the raising or lowering of said slab. Position sensors are associated with each jack and the system includes a means for communicating and controlling between each jack and one or more main controllers. There is also provided a jack for lifting a concrete slab which includes a shaft and ball screw, a drive assembly, a hanger assembly, a support device. The drive assembly drives the ball screw to raise the shaft with respect to the hanger assembly such that the jack has climbed the support device supports the shaft to prevent toppling and provide stability.



PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM,
ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD,
SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG,
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT,
LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
TG)

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.